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DEFINITION Sequence 1 from Patent EP 0259031.
ACCESSION 105311
VERSION 1.1
KEYWORDS
SOURCE
ORGANISM Unknown.
REFERENCE 1. (bases 1 to 4597)
  Dryja, T.P. and Friend, S.
  Human DNA in the diagnosis of retinoblastoma
  Patent: EP 0259031-A2 1.09-MAR-1988;
  Location/Qualifiers
  source 1. 4597
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 US 18165 2994 bp DNA PAT 10-JUN-1998  
 INITION Sequence 2 from patent US 5710255.  
 ESSION 18165 1. GI:3209762  
 WORDS Unknown.  
 ORGANISM Unknown.  
 UNCLASSIFIED  
 1 (bases 1 to 2994)  
 Shepard, H. Michael and Wen, S. Fen:  
 Characterization of a novel anti-p110-sup.RB monoclonal antibody  
 Patent: US 5710255-A 2-20-JAN-1998;  
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GenCore version 4.5  
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OM nucleic - nucleic search, using sw model

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pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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## Score

## Query

## Length

## DB

## ID

## Description

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Search: 821193 seqs, -1518192014 residues  
Database: GenEmbl:\*

Word size: 0

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8: gb\_p12:\*

9: gb\_p1:\*

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11: gb\_p3:\*

12: gb\_p4:\*

13: gb\_sts:\*

14: gb\_sy:\*

15: gb\_un:\*

16: gb\_x1:\*

17: em\_hun:\*

18: em\_hum1:\*

19: em\_hum2:\*

20: em\_in:\*

21: em\_on:\*

22: em\_or:\*

23: em\_ox:\*

24: em\_bt:\*

25: em\_ph:\*

26: em\_DL:\*

27: em\_ro:\*

28: em\_sts:\*

29: em\_sy:\*

30: em\_un:\*

31: em\_v1:\*

32: gb\_htg1:\*

33: gb\_htg2:\*

34: gb\_in1:\*

35: gb\_in2:\*

36: em\_bt1:\*

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38: em\_bt3:\*

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VERSION	105311.1
KEYWORDS	GR-591083
SOURCE	Unknown.
ORGANISM	Unclassified.
REFERENCE	1 (bases 1 to 4597)
AUTHORS	Dryja, T.P. and Friend, S.



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LOCUS	181465	Sequence 2 from patent US 5710255.	724 GATCATGATAAACTCTGACGTTGATCTGACGTTGAAACACAGAGACCA	783	
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SOURCE	ORGANISM	Unclassified.	Qy 844 GTATGAAACATCTCAGAACATTAAATGATGTTGAAATTCCTCCAGACACTCCAGTAGCT	903	
REFERENCE	1. (Bases 1 to 2994)	1. Shepard, R. Michael and Wen, S. Fen.	Db 1270 GTATGAAACATCTCAGAACATTAAATGATGTTGAAATTCCTCCAGACACTCCAGTAGCT	1329	
AUTHORS	Characterization of a novel anti-p110.sup. RB monoclonal antibody	1. Shepard, R. Michael and Wen, S. Fen.	Qy 904 GAAATCTGATTCCTTACACTGACAGTGAACTGAAACAGAGATACGAA	963	
TITLE	Patent: US 5710255-A 2 20-JUN-1998;	1. Shepard, R. Michael and Wen, S. Fen.	Db 1330 GAAATCTGATTCCTTACACTGACAGTGAACTGAAACAGAGATACGAA	1389	
JOURNAL	Location/Qualifiers	1. .2994	Qy 964 AGATGAGGATATGATACATCTTAAGAGAATTGCTTAAGTGTGACGGT	1023	
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QY	1444	GAACGGAGAGGACCAACGATCACCTGATCACCTGCTGTCCTTAATCTTCTCCACAG	1503	RESULT	3		
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QY	1504	AATATACACTGCGAGCAGATGACTTCTCCCTGAGATCTCCAAAGAAAGAGT	1563	LOCUS			
Db	1930	AATATACACTGCGAGCAGATGACTTCTCCCTGAGATCTCCAAAGAAAGAGT	1989	DEFINITION	Homo sapiens retinoblastoma susceptibility protein (RBL) mRNA and mutations.		
QY	1564	TCAACTTACACTGCGAGCAGATGACTTCTCCCTGAGATCTCCAAAGAAAGAGT	1623	ACCESSION	LA1870_1		
Db	1930	TCAACTTACACTGCGAGCAGATGACTTCTCCCTGAGATCTCCAAAGAAAGAGT	2049	VERSION	LA1870_1	GI:733994	
QY	1624	ACCCAGAAGGCCATTGAAACTCTACTCTCTTACTGTTTAAAGAAGTATGGCTA	1683	KEYWORDS	retinoblastoma protein; retinoblastoma susceptibility.		
Db	2050	ACCCAGAAGGCCATTGAAACTCTACTCTCTTACTGTTTAAAGAAGTATGGCTA	2109	SOURCE	Homo sapiens cDNA to mRNA.		
QY	1684	GCCTATCTCGCTTAATACACTTGTGAAACCCCTCTGTCGAGACAGAACCTCAG	1743	ORGANISM			
Db	2110	GCCTATCTCGCTTAATACACTTGTGAAACCCCTCTGTCGAGACAGAACCTCAG	2169	EBIkarota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eukaryota; Primates; Catarrhini; Hominoidea; Homo.			
QY	1744	CATATCCTCTGACCCCTTCCAGCACCCCTGAGATGAGTATGACCTGAGAGAC	1803	REFERENCE	1	(sites)	
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QY	1804	AGGGATTTGGACCAAAATGAGTGTGTTGAGATGAGTATGACCTGAGAGATA	1863	TITLE	Structure and partial genomic sequence of the human retinoblastoma susceptibility gene		
Db	2230	AGGGATTTGGACCAAAATGAGTGTGTTGAGATGAGTATGACCTGAGAGATA	2289	JOURNAL	Gene 80 (1), 119-128 (1989)		
QY	1864	GACCTTAATTCAAACTCATGTAACGACATACAGAGATCTCCATGGTGTGAG	1923	MEDLINE	90006771		
Db	2290	GACCTTAATTCAAACTCATGTAACGACATACAGAGATCTCCATGGTGTGAG	2349	REFERENCE	2	(sites)	
QY	1924	ACCTCAACGCTTGTATGCAAGAAGAGGAGTATGCTTATATGATCTTAAAC	1983	AUTHORS	Hogg,A., Onadim,Z., Baird,P.N. and Cowell,J.K.		
Db	2350	ACATTCAAACGTTGTATGCAAGAAGAGGAGTATGCTTATATGATCTTAAAC	2409	TITLE	Detection of heterozygous mutations in exon 20 of the RBL gene in retinoblastoma patients using single-strand conformation polymorphism analysis and polymerase chain reaction sequencing		
QY	1884	TGGCTCTCATGAGAACTGAAACAAATTTGGAGTCTCAGGCCCT	2043	JOURNAL	Oncogene 7 (7), 1445-1451 (1992)		
Db	2410	TGGCTCTCATGAGAACTGAAACAAATTTGGAGTCTCAGGCCCT	2469	MEDLINE	92310557		
QY	2044	ACCTTGACCAATCTCCATTCAGAGACTGAAACAAATTTGGAGTCTCAGGCCCT	2103	REFERENCE	3	(sites)	
Db	2470	ACCTTGACCAATCTCCATTCAGAGACTGAAACAAATTTGGAGTCTCAGGCCCT	2529	AUTHORS	Onadim,Z., Hogg,A., Baird,P.N. and Cowell,J.K.		
QY	2104	CGGATCTCTGGGGACATCTATTTCACCCCTGAGAGTCCATTAATTCGAA	2163	TITLE	Oncogenic point mutations in exon 20 of the RBL gene in families showing incomplete penetrance and mild expression of the retinoblastoma phenotype		
Db	2530	CGGATCTCTGGGGACATCTATTTCACCCCTGAGAGTCCATTAATTCGAA	2589	JOURNAL	Proc. Natl. Acad. Sci. U.S.A. 89 (13), 6177-6181 (1992)		
QY	2164	GCTCTGCCAACCCACCAACAAATGACTCCAGATGAGATCTGAGATCTGAG	2223	MEDLINE	92330261		
Db	2590	GCTCTGCCAACCCACCAACAAATGACTCCAGATGAGATCTGAGATCTGAG	2649	REFERENCE	4	(sites)	
QY	2224	TCTTCGGGACTCTGAGAAGTCCAGAAATAATCAGATGTTGATGACAGACCT	2283	AUTHORS	Hogg,A., Onadim,Z., Baird,P.N. and Cowell,J.K.		
Db	2650	TCTTCGGGACTCTGAGAAGTCCAGAAATAATCAGATGTTGATGACAGACCT	2709	TITLE	Mechanisms of oncogenesis in patients with familial retinoblastoma		
QY	2284	GGGCTCAAAAGAAGTCTGAGAGGCCAACCTCTTAACCACTGAAACATGCTT	2343	JOURNAL	Br. J. Cancer 68 (5), 938-964 (1993)		
Db	2710	GGGCTCAAAAGAAGTCTGAGAGGCCAACCTCTTAACCACTGAAACATGCTT	2769	MEDLINE	94031584		
QY	2344	GGATGGAGGATCAGAAGGAGTGGAGTAACATCCAGGAGAGTCACAAATT	2403	REFERENCE	5	(sites)	
			AUTHORS	Hogg,A., Bla,B., Onadim,Z. and Cowell,J.K.			
			TITLE	Molecular mechanisms of oncogenic mutations in tumors from patients with bilateral and unilateral retinoblastoma.			
			JOURNAL	Proc. Natl. Acad. Sci. U.S.A. 90 (15), 7331-7335 (1993)			
			MEDLINE	93340271			
			REFERENCE	6	(sites)		
			AUTHORS	Kratke,R.A., Otterson,G.A., Hogg,A., Coxon,A.B., Gerrads,J., Cowell,J.K. and Kaye,F.J.			
			TITLE	Partial inactivation of the RBL product in a family with incomplete penetrance of familial retinoblastoma and benign retinal tumors			
			JOURNAL	Oncogene 9 (5), 1321-1326 (1994)			
			MEDLINE	94205660			
			COMMENT	Mutation data provided by Dr. B.L.Gallie, Hospital for Sick Children, 555 Univ. Ave., Toronto, ON M5G 1X8			
				Canada			
				Ph: 416 813-5868			
				FAX: 416 813-4989			
				E-mail: brenda@hafiz.eric.on.ca.			
			FEATURES	Location/Qualifiers			
			source	1. /organism="Homo sapiens"			
				/db_xref="taxon:9606"			

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Om nucleic - nucleic search, using sw model

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

Title: US-09-026-459a-32\_COPY\_7\_2559  
Perfect score: 2553  
Sequence: 1 ATGGAGAAAGTTCTCTGT.....CCTCAAAACAGGAAGAAA 2553

Score table: OLIGO\_NUC  
Search: 821193 seqs, -1518192014 residues  
Database: GenEmbl:  
Word size: 0

Number of hits that pass the threshold : 1642386

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2: gb\_ba2:  
3: gb\_om:  
4: gb\_ov:  
5: gb\_pat:  
6: gb\_ph:  
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8: gb\_pl2:  
9: gb\_pr1:  
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13: gb\_sts:  
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Result No. Score Query Match Length DB ID Description

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4	2551	99.9	4600	10	HUMRBLAIRA		M33647 Human retina
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14	198	7.8	693	9	HUMBS15		M21858 Human retina
15	198	7.8	180388	9	HUMRBTBLA		L11910 Human retina
16	196	7.7	340	10	HUMRBL1501V		L419220 Homo sapien
17	167	6.5	555	10	HUMRBM4W02		L41904 Homo sapien
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19	165	6.5	935	9	HUMBS20		M27863 Human retina
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41	122	4.8	589	5	I09385		I09385 Sequence 18
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### ALIGNMENTS

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ACCESSION I0511 VERSION I0511.1 GI:51591083  
SOURCE Unknown.  
KEYWORDS  
ORGANISM  
REFERENCE 1 (bases 1 to 4597)  
AUTHORS Dryja,T.P. and Friend,S.

TITLE	Human DNA in the diagnosis of retinoblastoma	
JOURNAL	'Patent: EP 025031-A2 1-09-MAR-1988;	
FEATURES	Location/Qualifiers	
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Best Local Similarity	100.0%	Pred. No. 0; Mismatches 0; Indels 0; Gaps 0;
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Db 294	GTGGGAAATCTGTTATGTTGGGAGTATGGGAGTTATTCAGAAAGAAAGACT 353	
Oy 123	TGACCTACAGAAACATAGAATAGTGTGTCACATTAAGAA 182	
Db 354	TGACCTACAGAAACATAGAATAGTGTGTCACATTAAGAA 413	
Oy 183	TGACCTACAGAAACATAGAATAGTGTGTCACATTAAGAA 242	
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	AUTHORS	1 (bases 1 to 2994)		QY	783	TTAAAGATAGGAGAAATTCTCTAAATTAAGATCTAGATGCAAAATTGTA
	TITLE	Sequence 2 from patent US 5710255.		Db	1152	TTAAAGATAGGAGAAATTCTCTAAATTAAGATCTAGATGCAAAATTGTA
	JOURNAL	Characterization of a novel anti-P110.sup.RB monoclonal antibody		QY	843	TTAAAGATAGGAGAAATTCTCTAAATTAAGATCTAGATGCAAAATTGTA
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Db	2292	CCTTAATTCAAATCTGAGTCAGTCAGAACGATCTCCATGCTGTCAGGAG	2351
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Qy	2043	GGCTCTGATGAGAGCTGAAACATATTCAGATGCTCCACGGCCCCAC	2102
Db	2412	GGCTCTGATGAGAGCTGAAACATATTCAGATGCTCCACGGCCCCAC	2471
Qy	2103	CTGTCACCAATCTCTGAACTGCTCAAGCTTACGGTCTTCTGTCACCTTAC	2162
Db	2472	CTGTCACCAATCTCTGAACTGCTCAAGCTTACGGTCTTCTGTCACCTTAC	2531
Qy	2163	GATTCCTGGAGGAGACATCTATTTGACCCCTGAGACTCTTAAATTGAGAAG	2222
Db	2532	GATTCCTGGAGGAGACATCTATTTGACCCCTGAGACTCTTAAATTGAGAAG	2591
Qy	2223	TCTGCCACACGACACGACACGACACGACACGACACGACACGACACGAC	2282
Db	2592	TCTGCCACACGACACGACACGACACGACACGACACGACACGACACGAC	2651
Qy	2283	ATCGGAGACTCTGAGAGTTCAGAGAAATATGATGTTGAGTCACGCCGCGT	2342
RESULT 3			
HUMAN mRNA			
DEFINITION	Human sapiens mRNA		
ACCESSION	4839 bp mRNA		
VERSTON	PR1		
KEYWORDS	Definition of the human retinoblastoma susceptibility protein (RB1) mRNA.		
SOURCE	Homo sapiens mRNA to mRNA.		
ORGANISM	Homo sapiens		
AUTHORS	Hogg, A., Onadim, Z., Baird, P.N. and Cowell, J.K.		
TITLE	Structure and partial genomic sequence of the human retinoblastoma susceptibility gene.		
REFERENCE	Gene 80 (1), 119-128 (1989)		
2 (sites)	990056771		
REFERENCE	Detection of heterozygous mutations in the RB1 gene in retinoblastoma patients using single-strand conformation polymorphism analysis and polymerase-chain reaction sequencing		
REFERENCE	Oncogene 7 (7), 1445-1451 (1992)		
3 (sites)	9231557		
REFERENCE	Onadim, Z., Hogg, A., Baird, P.N. and Cowell, J.K.		
REFERENCE	Oncogenic point mutations in exon 20 of the RB1 gene in families showing incomplete penetrance and mild expression of the retinoblastoma phenotype		
REFERENCE	Proc. Natl. Acad. Sci. U.S.A. 89 (13), 6177-6181 (1992)		
4 (sites)	9233261		
REFERENCE	Onadim, Z., Hogg, A. and Cowell, J.K.		
REFERENCE	Mechanisms of oncogenesis in patients with familial retinoblastoma		
REFERENCE	Proc. Natl. Acad. Sci. U.S.A. 90 (15), 7351-7355 (1993)		
REFERENCE	94205184		
REFERENCE	5 (sites)		
REFERENCE	Hogg, A., Baird, P., Onadim, Z. and Cowell, J.K.		
REFERENCE	Molecular mechanisms of oncogenic mutations in tumors from patients with bilateral and unilateral retinoblastoma		
REFERENCE	Proc. Natl. Acad. Sci. U.S.A. 90 (15), 7351-7355 (1993)		
REFERENCE	93348271		
REFERENCE	6 (sites)		
REFERENCE	Kratzke, R.A., Otterson, G.A., Hogg, A., Coxon, A.B., Gerads, J., Cowell, J.K. and Kaye, F.J.		
REFERENCE	Partial inactivation of the RB product in a family with incomplete penetrance of familial retinoblastoma and benign retinal tumors		
REFERENCE	Oncogene 9 (3), 1321-1326 (1994)		
COMMENT	Mutation data provided by Dr. B.L.Gallie, Hospital for Sick Children, Toronto, ONT, W5G 1X8		

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OM nucleic - nucleic search, using sw model

Run on: February 13, 2000, 11:15:20 ; Search time 14294.3 Seconds

(without alignments) cell updates/sec

Title: US-09-026-459a-30\_COPY\_7\_2628

Perfect score: 2622

Sequence: 1 ATGGATTTACTGCATTAAG...:.....CCTCAACAGGAGAGAAA 2622

Score table: OLIGO\_NUC

Searched: 821193 seqs, -1518192014 residues

Database : GenBank:\*

Word size : 0

Number of hits that pass the threshold : 1642386

1: gba\_ba1:\*

2: gba\_ba2:\*

3: gba\_on:\*

4: gba\_on:\*

5: gba\_p1:\*

6: gba\_p1:\*

7: gba\_p11:\*

8: gba\_p12:\*

9: gba\_p11:\*

10: gba\_p12:\*

11: gba\_pr3:\*

12: gba\_ro:\*

13: gba\_sts:\*

14: gba\_sy:\*

15: gba\_un:\*

16: gba\_v1:\*

17: em\_fun:\*

18: em\_hum1:\*

19: em\_hum2:\*

20: em\_in:\*

21: em\_on:\*

22: em\_or:\*

23: em\_ov:\*

24: em\_pat:\*

25: em\_ph:\*

26: em\_pl:\*

27: em\_ro:\*

28: em\_sts:\*

29: em\_sy:\*

30: em\_un:\*

31: em\_v1:\*

32: gba\_htg1:\*

33: gba\_htg2:\*

34: gba\_in1:\*

35: gba\_in2:\*

36: em\_ba1:\*

37: em\_ba2:\*

38: em\_hum3:\*

39: em\_hum4:\*

40: gba\_gt4:\*

41: gba\_htg3:\*

42: gba\_htg4:\*

43: gba\_htg5:\*

44: gba\_htg6:\*

45: gba\_htg7:\*

46: em\_htg1:\*

47: em\_htg2:\*

48: em\_htg3:\*

49: em\_hum5:\*

50: gba\_p13:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query	Length	DB	ID	Description
1	261.9	99.9	4597	5	I0311	I05311 Sequence 1
2	261.9	99.9	2934	5	18465	18165 Sequence 2
3	261.9	99.9	4839	10	HMRB1MNA	L41870 Homo sapien
4	261.9	99.9	4600	10	HMRB1MRA	M33647 Human retin
5	261.9	99.9	2994	10	HMRB1MRA	M22419 Human retin
6	2558	97.9	4597	5	I03169	I09369 Sequence 1
7	2460	93.8	3232	5	I18496	I1895 Sequence 1
8	2460	93.8	3232	5	I18497	I1897 Sequence 2
9	2208	84.2	4740	10	HMRB1S	M15400 Human retin
10	1420	54.2	4580	5	A0144	A0144 H. sapiens D
11	338	12.9	426	11	A043224	AF043224 Homo sapi
12	207	7.9	480	9	HMRB1S79	M1901 Human mutat
13	198	7.6	693	5	I0384	I09384 Sequence 17
14	198	7.6	180388	9	HMRB1S15	M22858 Human retin
15	198	7.6	180388	10	HMRB1S1501V	L11910 Human retin
16	196	7.5	340	10	HMRB1S1501V	L42220 Homo sapien
17	167	6.4	555	10	HMRB1MNU2	L41904 Homo sapien
18	165	6.3	935	5	I0389	I09389 Sequence 22
19	165	6.3	935	9	HMRB1S20	M22863 Human retin
20	165	6.3	420	10	HMRB1S20EX	L41910 Homo sapien
21	163	6.2	252	10	HMRB1I777L	L42230 Homo sapien
22	155	5.9	609	5	I09377	L41924 Homo sapien
23	148	5.6	717	9	HMRB1S08	I09387 Sequence 20
24	148	5.6	717	9	HMRB1S18	L35147 Human retin
25	148	5.6	717	15	M27861	M22861 Figure 2, R
26	147	5.6	224	10	HMRB1S2DL	L42225 Homo sapien
27	146	5.6	650	9	HMRB1S17	I09386 Sequence 19
28	146	5.6	650	9	HMRB1S17	M22860 Human retin
29	145	5.5	609	5	I09377	I09377 Sequence 10
30	145	5.5	609	9	HMRB1S08	L35146 Human retin
31	145	5.5	316	10	HMRB1BEX	M22861 Figure 2, R
32	144	5.5	316	10	HMRB1S22	L42225 Homo sapien
33	144	5.5	625	10	HMRB1S2EX	I09386 Sequence 19
34	132	5.0	224	10	HMRB1S10K	M22860 Human retin
35	131	5.0	317	10	HMRB1I77MUT	L41996 Homo sapien
36	125	4.8	350	10	HMRB1S0MTU	L41892 Homo sapien
37	124	4.7	444	10	HMRB1DAMT	L41906 Homo sapien
38	124	4.7	483	10	HMRB1I7MUT	M22861 Figure 2, R
39	123	4.7	570	5	I09373	I09373 Sequence 6
40	123	4.7	570	9	HMRB1S04	M22868 Human retin
41	122	4.7	589	5	I09385	I09385 Sequence 18
42	122	4.7	589	9	HMRB1S15	M22859 Human retin
43	122	4.7	224	10	HMRB1I64F	L41924 Homo sapien
44	122	4.7	222	10	HMRB1S0EX	L41905 Homo sapien
45	4.5	323	10	HMRB1D18	L419221 Homo sapien	

ALIGNMENTS

RESULT	1	PAT	02-DEC-1994
105311	105311		
LOCUS	4597 bp		
DEFINITION	Sequence 1 from Patent EP 0259031.		
ACCESSION			
VERSION	105311.1		
KEYWORDS			
SOURCE	Unknown.		
ORGANISM	Unclassified.		
REFERENCE	1 (bases 1 to 4597)		
AUTHORS	dryja,T.P. and Friend,S.		



Db	2146	AATTTAGCTTAATCAAAATCATGTACAGCATACAGATTCCTCATGGTT	2205	Qy	64	TTAACTTGGAGAAGATTCACTGGGATGGAGTTATGGGGTTATTCAAAAGAA	123
Qy	2044	CAGGAGACATTCAACACCTGTTGATCAAGAGAGGACTATGATTTAGTTC	2103	Db	364	TTAATTTGGAGAAGATTCACTGGGATGGAGTTATGGGGTTATTCAAAAGAA	423
Db	2205	CAGGAGACATTCAACAGGTTGATCAAGAGAGGACTATGATTTAGTTC	2265	Qy	124	AAGGACTGTGGGAACTGTPATCTTATGCGAGGTGACCTAGTAGATGTGTC	183
Qy	2104	TATACCTGGCTCTCATGCAGAGACTGAAACAAATATTGCGATWGTCTCCAGG	2163	Db	424	AAGGACTGTGGGAACTGTPATCTTATGCGAGGTGACCTAGTAGATGTGTC	483
Db	2266	TATACCTGGCTCTCATGCAGAGACTGAAACAAATATTGCGATWGTCTCCAGG	2325	Qy	184	ACTTATCAGTGGACTACAAACATAGAATCTGATGTCATAAATCTTACTNCA	243
Qy	2164	CCCCCTACCTGTGACCAACTCTCATCTCGATGAGCCCTACAGTTCTAGTCA	2223	Db	484	ACTTATCAGTGGACTACAAACATAGAATCTGATGTCATAAATCTTACTNCA	543
Db	2326	CCCCCTACCTGTGACCAACTCTCATCTCGATGAGCCCTACAGTTCTAGTCA	2385	Qy	244	AAAGAAATGATACCAAGTACCAACTGATAATCTGATGTCAGACTGTGAGAGT	303
Qy	2224	CCCTTACAGGATCTGAGGAGACATCTATTCACCCCTGAGAGGACCCCTATTAATT	2283	Db	544	AAAGAAATGATACCAAGTACCAACTGATAATCTGATGTCAGACTGTGAGAGT	603
Db	2284	CCCTTACAGGATCTGAGGAGACATCTATTCACCCCTGAGAGGACCCCTATTAATT	2445	Qy	304	GATGATGTTGCACTTCATGCAATTGAGACATGTCATATTCTTACTNCA	363
Qy	2344	TGAGAAGCTCTGCCAACGACCAACAAATGACTCGAGATCATGAGTTAGTATCAATT	2343	Db	604	GATGATGTTGCACTTCATGCAATTGAGACATGTCATATTCTTACTNCA	663
Db	2446	TCGAAGTACATGGGACTCTGAGAGTTCAGAAATAATCAGAGGTAGTCAATT	2505	Qy	364	CAACCCAGTGTGATCTACTGAAATAATCTGATGTCATTGCTGTAAGTTCTGG	423
Qy	2506	GGPAGATACATGGGACTCTGAGAGTTCAGAAATAACATCCCGAGGAGTC	2565	Db	664	CAACGAGATGATACCAAGTACCAACTGATAATCTGATGTCAGACTGTGAGAGT	723
Qy	2404	GACCGTGTGTCAAAGAGAGTGTGAGAGGACACCCCTTAACCACTTAAACATA	2463	Qy	424	ATCACATTTTATGTTAAGGGGAGTATGAACTGAGATGAGTAACTCCCGAGGAGTC	483
Db	2566	GAACGTTGTCAAAGAGAGTGTGAGAGGACACCCCTTAACCACTTAAACATA	2625	Db	724	ATCACATTTTATGTTAAGGGGAGTATGAACTGAGATGAGTAACTGAGATGTC	783
Qy	2464	CGCTTGTATGAGGATGATGATGAGCATGAGCATGAGTGTGACTTACATCCTCCAGGAGTCC	2523	Qy	484	TTTCGTTATGCTGTTGCTGAACTTAACTCTCCATGTCGTC	543
Db	2626	CGCTTGTATGAGGATGATGAGCATGAGTGTGACTTACATCCTCCAGGAGTCC	2685	Db	784	TTTCGTTATGCTGTTGCTGAACTTAACTCTCCATGTCGTC	843
Qy	2524	AAATTCTAGCAGAACATGGCAAGAATGACTCTACCTCAGGAACTGGCAAAAGCAGAA	2583	Qy	544	AAAGACCATTAACAGCTGTATGACCTATTGTTCACTCCGAAACCCAGGGA	603
Db	2686	AAATTCTAGCAGAACATGGCAAGAATGACTCTACCTCAGGAACTGGCAAAAGCAGAA	2745	Db	844	AAAGACCATTAACAGCTGTATGACCTATTGTTCACTCCGAAACCCAGGGA	903
Qy	2584	ATGAAATGATGATGATGATACCTCAACAAAGGAGGAGAA	2622	Qy	604	GGTCGAGCAGGGTGCACGGATACGGAACTAGAAATGTCAGGAGTATTGAA	663
Db	2746	ATGAAATGATGATGATGATACCTCAACAAAGGAGGAGAA	2784	Db	904	GGTCGAGCAGGGTGCACGGATACGGAACTAGAAATGTCAGGAGTATTGAA	963
RESULT	2			Qy	664	GTTCCTGTAAGAACAGTGTATAGATGAGTGGGAAAGTTATTGAAAT	723
LOCUS	181465	Sequence 2 from Patent US 5710255.	PAT	Db	964	GTTCCTGTAAGAACAGTGTATAGATGAGTGGGAAAGTTATTGAAAT	1023
DEFINITION				Qy	724	TTTACCTTTATGTTCTGGCTGTACACTAATGACTCCAGGGTGA	783
ACCESSION	181465			Db	1024	TTTACCTTTATGTTCTGGCTGTACACTAATGACTCCAGGGTGA	1083
VERSION	181465.1			Qy	784	ATCTTCCTAACGATACGAGAAATTCTAACTTAAAGATCTGAGTCAGATA	843
KEYWORDS	Unknown.			Db	1084	ATCTTCCTAACGATACGAGAAATTCTAACTTAAAGATCTGAGTCAGATA	1143
ORGANISM	Unclassified.			Qy	844	TTTGGATCAAGTAAACCTCTGAGCTGATGCTTAACTGAGCTTAACTGAGATA	903
REFERENCE	1 (bases 1 to 2994)			Db	1144	TTTGGATCAAGTAAACCTCTGAGCTGATGCTTAACTGAGCTTAACTGAGATA	1203
AUTHORS	Shepard, R. Michael and Wen, S. Fen.			Qy	904	ACACCCGAAAGTAACTCTGAGGTGAACTCTCCACAGACTCCGGT	963
TITLE	Characterization of a novel anti-p110.sup.RB monoclonal antibody			Db	1204	ACACCCGAAAGTAACTCTGAGGTGAACTCTCCACAGACTCCGGT	1263
JOURNAL	Patent: US 5710255-A 2 20-JAN-1998;			Qy	964	AGGACTGTGACACTATCCACCATATGATGTTAACTGAGCTGAACTGAA	1023
FEATURES	Location/Qualifiers			Db	1264	AGGACTGTGACACTATCCACCATATGATGTTAACTGAGCTGAACTGAA	1083
SOURCE	1. 2994	/organism="unknown"		Qy	1024	CCTCGAGAAACTCTGATTCCTTACACTGAGCTGAACTGAACTGAA	1083
BASE COUNT	974	a 618 c 593 g 809 t		Db	1324	CCTCGAGAAACTCTGATTCCTTACACTGAGCTGAACTGAACTGAA	1183
ORIGIN				Qy	1084	CTGAAAGAGTGGAGATGATCTTAACTGAGAACTGCTAAAGCTGGGA	1143
Query Match	99.9%; Score 2619; DB 5; Length 2994;			Db	1384	CTGAAAGAGTGGAGATGATCTTAACTGAGAACTGCTAAAGCTGGGA	1443
Best Local Similarity	100.0%; Pre. No. 0; Mismatches 0; Indels 0; Gaps 0;			Qy	1144	CAGGTTGTGAAATTGATCACGCAACATCACAGTGGAGAGCTGG	1203

Db	1444	CAGGTTGTTGTCGAAATTGATCAGCAGGATCAACTTGAGTGGCTGTAAAGA	1503
Qy	1204	GTTATGGAAATCATCTTAATCGAGAAGAACGATTCCATTAAATTAGCAA	1263
Db	1504	GTATGGGATCATCTTAATCGAGAAGAACGATTCCATTAAATTAGCAA	1563
Qy	1264	CTCTGGATGACAACTTCACTGCTTATGGCTTATGGGGCGCTTGAGSTGATG	1323
Db	1564	CTCTGGATGACAACTTCACTGCTTATGGCTTATGGGGCGCTTGAGSTGATG	1623
Qy	124	GCCACATATAGCAGAGTACATCGAGATCTGCTTATGGCTTATGGGGCGCTTGAGSTGATG	1383
Db	1624	GCCACATATAGCAGAGTACATCGAGATCTGCTTATGGCTTATGGGGCGCTTGAGSTGATG	1683
Qy	1384	TGGATCTGAACTGCTTAAATTAAAGCTTGAGTTTCAAGTGTGAAAGTT	1443
Db	1684	TGGATCTGAACTGCTTAAATTAAAGCTTGAGTTTCAAGTGTGAAAGTT	1743
Qy	1	ATCAGCAGAGGAACTGAGACAGAAAGAATGATTAACACCTTAACTTAAAGTGAAGAT	1503
Db	1	ATCAGCAGAGGAACTGAGACAGAAAGAATGATTAACACCTTAACTTAAAGTGAAGAT	1803
Qy	1504	CGATCATGGATCCTTGATGCTCAGATTGAGATTAACCTTAACTTAAAGTGAAGAT	1563
Db	1804	CGATCATGGATCCTTGATGCTCAGATTGAGATTAACCTTAACTTAAAGTGAAGAT	1863
Qy	1564	TCAAGGACCGAGAAGGACACTGATACCTGAACTTGCTGTTGGCTCTTAACCTT	1623
Db	1864	TCAAGGACCGAGAAGGACACTGATACCTGAACTTGCTGTTGGCTCTTAACCTT	1923
Qy	1624	CTCCAGATAATCACTSCAGAGATAGTCTCTCTCTCTGTAAGATCTCCAAAGAA	1683
Db	1924	CTCCAGATAATCACTSCAGAGATAGTCTCTCTCTCTGTAAGATCTCCAAAGAA	1983
Qy	1684	AAAGGTCACACTACGGGTAAATCTACTGCAAAACAGACACAGAACCTCGCC	1743
Db	1984	AAAGGTCACACTACGGGTAAATCTACTGCAAAACAGACACAGAACCTCGCC	2043
Qy	1744	TCCAGACCCAGAACCATGAAACTTACCTCTCTCACGTTATAAAAGTAT	1803
Db	2044	TCCAGACCCAGAACCATGAAACTTACCTCTCACGTTATAAAAGTAT	2103
Qy	1804	CGCTTACCTCTCGCTTAAATCACTTGTGAAAGCCCTCTGAGACCGAA	1863
Db	2104	CGCTTACCTCTCGCTTAAATCACTTGTGAAAGCCCTCTGAGACCGAA	2163
Qy	1864	TTGAGACATACATGGACCTTTCAGACACCTGCGAGAAGTGAAGTGAAGT	1923
Db	2224	TTGAGACATACATGGACCTTTCAGACACCTGCGAGAAGTGAAGTGAAGT	2223
Qy	1924	AGAGACAGCTTGGACAAATTGATGTTGCTCTGAGATGATGATGAGTGAAG	1983
Db	2224	AGAGACAGCTTGGACAAATTGATGTTGCTCTGAGATGATGATGAGTGAAG	2283
Qy	1984	ATTTAGCTTAATCAAACTCATGTTGACAGGATCTCTCCTCCTCCTCCTCCT	2043
Db	2284	ATTTAGCTTAATCAAACTCATGTTGACAGGATCTCTCCTCCTCCTCCTCCT	2343
Qy	2284	TCAGGAGTGTGCAACCCACACAAATCTCAGATCTGAGTCTGTTCAATT	2343
Db	2584	TCAGGAGTGTGCAACCCACACAAATCTCAGATCTGAGTCTGTTCAATT	2643
Qy	2344	GTTGATCATCTCGGACCTCTGAGAGTCCAGAAATAATCGAGTGGAGTACAGC	2403
Db	2644	GTTGATCATCTCGGACCTCTGAGAGTCCAGAAATAATCGAGTGGAGTACAGC	2703
Qy	2404	GACCTGTTGCTCAAAGAGGCTGAGGAGCACCTCTAACCTCTAACCTA	2463
Db	2704	GACCTGTTGCTCAAAGAGGCTGAGGAGCACCTCTAACCTCTAACCTA	2763
Qy	2464	CGCTTGATATGGGGTACATGAGCTGAGGAGTCCAGAAATAATCGAGTGGAGTACAGC	2523
Db	2764	CGCTTGATATGGGGTACATGAGCTGAGGAGTCCAGAAATAATCGAGTGGAGTACAGC	2823
Qy	2524	AAATTCAAGAACCTGAGAATGACTCTACTGAAACGAAATGCAAAACGAGAA	2583
Db	2824	AAATTCAAGAACCTGAGAATGACTCTACTGAAACGAAATGCAAAACGAGAA	2883
Qy	2584	ATGATGAGACTGATACCTAACACAGAGAGAA	2622
Db	2884	ATGATGAGACTGATACCTAACACAGAGAGAA	2922

RESULT	3		
HUMLBMRNA		HUMLBMRNA	4839 bp mRNA
DEFINITION		Homo sapiens	retinoblastoma susceptibility protein (RBL) mRNA and mutations.
ACCESSION		L4870	GI:793994
VERSION		L4870.1	
KEYWORDS		retinoblastoma protein; retinoblastoma susceptibility.	
SOURCE		Homo sapiens	cDNA to mRNA.
ORGANISM		Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Primates; Catarrhini; Hominidae; Homo.	
REFERENCE		1 (sites)	
AUTHORS		McGee, T.L., Vandell, D.W. and Dryja, T.P.	
TITLE		Structure and partial genomic sequence of the human retinoblastoma susceptibility gene	
JOURNAL		Gene	80 (1), 119-128 (1989)
MEDLINE		9006771	
REFERENCE		2 (sites)	
AUTHORS		Hogg, A., Onadim, Z., Baird, P.N. and Cowell, J.K.	
TITLE		Detection of heterozygous mutations in the RBL gene in retinoblastoma patients using single-strand conformation polymorphism analysis and polymerase chain reaction sequencing	
JOURNAL		Oncogene	7 (7), 1445-1451 (1992)
MEDLINE		9219557	
REFERENCE		3 (sites)	
AUTHORS		Onadim, Z., Hogg, A., Baird, P.N. and Cowell, J.K.	
TITLE		Oncogenic point mutations in exon 20 of the RBL gene in families showing incomplete penetrance and mild expression of retinoblastoma phenotype	
JOURNAL		Proc. Natl. Acad. Sci. U.S.A.	89 (13), 6177-6181 (1992)
MEDLINE		92135261	
REFERENCE		4 (sites)	
AUTHORS		Onadim, Z., Hogg, A. and Cowell, J.K.	
TITLE		Mechanisms of oncogenesis in patients with familial retinoblastoma	
JOURNAL		Br. J. Cancer	68 (5), 958-964 (1993)
MEDLINE		9401584	
REFERENCE		5 (sites)	
AUTHORS		Hogg, A., Bla, B., Onadim, Z. and Cowell, J.K.	
TITLE		Molecular mechanisms of oncogenic mutations in tumors from patients with bilateral and unilateral retinoblastoma	
JOURNAL		Proc. Natl. Acad. Sci. U.S.A.	90 (15), 7351-7355 (1993)
MEDLINE		93348271	
REFERENCE		6 (sites)	
AUTHORS		Cowell, J.K. and Kaye, F.J.	

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Date: Feb 13, 2000 8:10 PM

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-QGAPOP=4.500 -QGAPEXT=0.050 -KGAPOP=60.000 -KGAPEXT=60.000
-FGAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=60.000 -YGAPEXT=60.000
-DELOP=6.000 -DELPEXT=7.000 -START=1 -MATRIX=oligo
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## Search information block:

Query: US-09-026-459a-35

Query length: 832

Database: GenEmbl:\*

Database sequences: 8219193

Database length: -1518192014

Search time (sec): 10867.920000

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WARN: XGAPEXT and YGAPEXT must be equal. Assuming YGAPEXT=YGAPEXT=60.000

score_list:	Strd	Orig	Zscore	Escore	Len	! documentation	from Patent
gb_pat:105311	+	831.00	15709.34	0.0	4597	! 105311 Sequence 1 from Patent	
gb_pat:181465	+	831.00	15712.37	0.0	2994	! 181465 Sequence 2 from Patent	
gb_pr2:HUMBR1MENA	+	831.00	15708.97	0.0	4839	! L41870 Homo sapiens retinoblastoma	
gb_pr2:HUMBR1ARA	+	831.00	15709.33	0.0	4600	! M33647 Human retinoblastoma	
gb_pr2:HUMBRA	+	831.00	15712.37	0.0	2994	! M28419 Human retinoblastoma	
gb_pat:18496	+	820.00	15553.30	0.0	3232	! 18496 Sequence 1 from Patent	
gb_pat:118497	-	820.00	15553.30	0.0	3232	! 18497 Sequence 2 from Patent	
gb_pat:103369	+	780.00	14715.52	0.0	4597	! 10969 Sequence 1 from Patent	
gb_pr2:HUMBRB	+	602.00	11571.93	0.0	4740	! M15400 Human retinoblastoma	
gb_pr2:HUMBRB1	+	285.00	5377.71	1.6e-291	4580	! A0144 H.sapiens DNA for 4.6	
gb_pr2:HUMBRB2	+	103.00	1925.37	3.2e-99	426	! AF043224 Homo sapiens retinoblastoma	
gb_pr2:HUMBRB3	+	72.00	1320.87	2.4e-99	4591	! E12560 cDNA encoding Rb (retinoblastoma)	
gb_pr2:HUMBRB10RB	+	72.00	1320.87	1.5e-65	4591	! M25391 Human retinoblastoma	
gb_pr2:HUMBRB79	+	68.00	1251.02	4.5e-52	480	! M9701 Human mutated retinoblastoma	
gb_pr2:HUMBRB101V	+	60.00	1225.55	3.1e-60	340	! L69220 Homo sapiens retinoblastoma	
gb_pat:103384	+	65.00	1201.55	6.6e-59	693	! L03384 Sequence 17 from Patent	
gb_pr2:HUMBRB15	+	65.00	1201.55	6.6e-59	693	! M27858 Human retinoblastoma	
gb_pr2:HUMBRBLAS	+	65.00	1162.17	1.0e-55	180388	! L11910 Human retinoblastoma	
gb_pr2:HUMBRBLAS1	+	59.00	1074.67	7.8e-52	4432	! D52533 Rat mRNA for retinoblastoma	
gb_pr2:HUMBRBLAS2	+	55.00	1009.86	3.2e-48	935	! L010389 Sequence 22 from Patent	
gb_pat:103389	+	55.00	1009.86	3.2e-48	935	! M27863 Human retinoblastoma	
gb_pr2:HUMBRB23EX	+	55.00	1015.53	1.5e-48	420	! L41910 Homo sapiens retinoblastoma	
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 REFERENCE 1 (bases 1 to 2994)  
 AUTHORS Shepard, H. Michael and Wen, S. Fen.  
 TITLE Characterization of a novel anti-p110.sup.RB monoclonal antibody  
 JOURNAL Patent: US 5710255 A 20-JUN-1998;  
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seq-name: gb\_pr2\_HUMRBLIMRNA

seq-documentation-block:

LOCUS HUMRBLIMRNA 4839 bp mRNA PRI 05-MAY-1995

DEFINITION Homo sapiens retinoblastoma susceptibility protein (RBL) mRNA and mutations.

ACCESSION 141870

VERSION 141870.1 GI:793994

KEYWORDS retinoblastoma protein; retinoblastoma susceptibility.

ORGANISM Homo sapiens

SOURCE Homo sapiens cDNA to mRNA.

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo.

REFERENCE 1 (sites)

AUTHORS McGee,T.L., Yandell,D.W. and Dryja,T.P.

TITLE Structure and partial genomic sequence of the human retinoblastoma susceptibility gene

JOURNAL Gene 80 (1), 119-128 (1989)

REFERENCE 2 (sites)

AUTHORS Hogg,A., Onadim,Z., Baird,P.N. and Cowell,J.K.

TITLE Detection of heterozygous mutations in the RBL gene in retinoblastoma patients using single-strand conformation polymorphism analysis and polymerase chain reaction sequencing

JOURNAL Oncogene 7 (7), 1445-1451 (1992)

REFERENCE 3 (sites)

AUTHORS Onadim,Z., Hogg,A., Baird,P.N. and Cowell,J.K.

TITLE Oncogenic point mutations in exon 20 of the RBL gene in families showing incomplete penetrance and mild expression of the retinoblastoma phenotype

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 89 (13), 6177-6181 (1992)

REFERENCE 4 (sites)

AUTHORS Onadim,Z., Hogg,A., and Cowell,J.K.

TITLE Mechanisms of oncogenesis in patients with familial retinoblastoma

JOURNAL Br. J. Cancer 68 (5), 958-964 (1993)

REFERENCE 5 (sites)

AUTHORS Hogg,A., Bla,B., Onadim,Z. and Cowell,J.K.

1473 ATACAACTTGGAGTCGCTGTATTACCGGATAATGAAATCATGCTTA 1522  
 385 YSERRGGUGLGLUAGLGLAEGLEURSERLIEGLINASPHESERLUSLEUENR 401  
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 535 ERDLYS-LYS-SYGLY-SER-THR-HIS-GLY-VAL-AS-PRO-VAL 551  
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seq\_name: gb\_pr2:HUMB1MRNA

seq\_documentation\_block:

LOCUS HUMB1MRNA 4839 bp mRNA DEFINITION Homo sapiens retinoblastoma susceptibility Protein (RBL) mRNA and mutations.

VERSION 141870.1 GI: 7193994

KEYWORDS retinoblastoma protein; retinoblastoma susceptibility.

SOURCE Homo sapiens cDNA to mRNA.

ORGANISM Homo sapiens

EBukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eukaryota; Primates; Catarrhini; Hominoidea; Homo.

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TITLE Structure and partial genomic sequence of the human retinoblastoma susceptibility gene

JOURNAL Gene 80 (1), 119-128 (1989)

MEDLINE 9006771

REFERENCE 2 (sites)

AUTHORS Hogg, A., Onadim, Z., Baird, P.N. and Cowell, J.K.

TITLE Detection of heterozygous mutations in the RBL gene in retinoblastoma patients using single strand conformation polymorphism analysis and polymerase chain reaction sequencing

JOURNAL Oncogene 7 (7), 1445-1451 (1992)

MEDLINE 92319557

REFERENCE 3 (sites)

AUTHORS Onadim, Z., Hogg, A., Baird, P.N. and Cowell, J.K.

TITLE Oncogenic point mutations in exon 20 of the RBL gene in families showing incomplete penetrance and mild expression of the retinoblastoma phenotype

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 89 (13), 6177-6181 (1992)

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895 JOURNAL 181465.1 US 5710255.  
905 WORDS Unknown.  
915 ORGANISM Unclassified.  
925 REFERENCES 1. (bases 1 to 2994)  
935 Shepard, H. Michael and Wen, S. Fen.  
945 Characterization of a novel anti-P110. sup. RB monoclonal antibody  
955 Patent: US 5710255-A 2 20-JAN-1998;  
965 PATENT\_QUALIFIERS 1. -2994  
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ogen ltd.

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12: gb\_rc:\*

13: gb\_sts:\*

14: gb\_sy:\*

15: gb\_un:\*

16: gb\_v1:\*

17: em\_fim:\*

18: em\_hum1:\*

19: em\_hum2:\*

20: em\_in:\*

21: em\_on:\*

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25: em\_ph:\*

26: em\_p1:\*

27: em\_r1:\*

28: em\_sts:\*

29: em\_sy:\*

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33: gb\_htg2:\*

34: gb\_in1:\*

35: gb\_in2:\*

36: em\_ba1:\*

37: em\_ba2:\*

38: em\_hum3:\*

39: em\_hum4:\*

40: gb\_ba4:\*

41: gb\_htg3:\*

42: gb\_htg4:\*

43: gb\_htg5:\*

44: gb\_htg6:\*

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46: em\_htg1:\*

47: em\_htg2:\*

48: em\_htg3:\*

49: em\_hum5:\*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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12	198	8.5	693	5	I09344	I09344 Sequence 17
13	198	8.5	693	9	HUMRS15	M27858 Human retina
14	198	8.5	180388	9	HUMRS1BLAS	L11910 Human retina
15	196	8.4	340	10	HUMRS1501V	L49220 Homo Sapien
16	167	7.1	555	10	HUMRS4MU2	L41924 Homo Sapien
17	165	7.0	109389	9	HUMRS20	I09389 Sequence 22
18	165	7.0	935	9	HUMRS20	M27863 Human retina
19	198	7.0	420	10	HUMRS23EX	L41910 Homo Sapien
20	163	7.0	252	10	HUMRS1777L	L49230 Homo Sapien
21	160	6.8	426	11	AF043224	AF043224 Homo Sapien
22	155	6.6	555	22	I09386	I09386 Sequence 19
23	148	6.3	717	5	HUMRS17MU2	M27860 Human retina
24	148	6.3	717	9	HUMRS18	L41927 Sequence 10
25	148	6.3	717	15	M27861	M27861 Figure 2, R
26	147	6.3	224	10	HUMRS15DDL	L49225 Homo Sapien
27	146	6.2	650	5	I09386	I09386 Sequence 19
28	146	6.2	609	5	I09377	I09377 Sequence 20
29	145	6.2	609	9	HUMRS08	L35147 Human retina
30	145	6.2	316	9	HUMRS08EX	M27861 Figure 2, R
31	144	6.1	13310	9	HUMRS22	L41925 Homo Sapien
32	144	6.1	625	10	HUMRS152EX	L41923 Homo Sapien
33	144	6.1	625	10	HUMRS1610K	L41923 Homo Sapien
34	132	5.6	224	10	HUMRS17M07	L41999 Homo Sapien
35	131	5.6	317	10	HUMRS17M07	L41996 Homo Sapien
36	125	5.3	350	10	HUMRS17M07	L41996 Homo Sapien
37	124	5.3	483	10	HUMRS19M07	L41906 Homo Sapien
38	122	5.2	589	5	I09385	I09385 Sequence 18
39	122	5.2	589	9	HUMRS16	M27859 Human retina
40	122	5.2	224	10	HUMRS1646F	L4924 Homo Sapien
41	122	5.2	222	10	HUMRS18EX	L41905 Homo Sapien
42	119	5.1	323	10	HUMRS18EX	L49221 Homo Sapien
43	117	5.0	584	5	I09382	I09382 Sequence 15
44	117	5.0	584	9	HUMRS13	M27856 Human retina
45	116	5.0	202	10	HUMRS1604E	L49222 Homo Sapien

### ALIGNMENTS

RESULT	1	LOCUS	10331	DEFINITION	Sequence 1 from Patent EP 0259031.	PAT	02-DEC-1994
105311		ACCESSION	I0511	VERSION	I0511.1	GI:591083	
KEYWORDS		ORGANISM	Unknown.	REFERENCE	Unclassified.	DRya,T.P. and Friend,S.	AUTHORS

TITLE	Human DNA in the diagnosis of retinoblastoma				
JOURNAL	Patent: EP 025031-A2 109-MAR-1988;				
FEATURES	Location/Qualifiers				
source	1..4597 /organism="unknown" BASE COUNT 1489 a 842 c 812 g 1454 t ORIGIN				
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Best Local Similarity	100.0%	Score 2341;	DB 5;	Length 4597;	
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				Indels	0;
				Gaps	0;
QY	1	ATGTCAGACTGTGTAAGAAGTATGAGTGTGACTCTCGAAATGGAAAGG 60			
Db	442	ATGTCAGACTGTGTAAGAAGTATGAGTGTGACTCTCGAAATGGAAAGG 501			
QY	61	ACATGTGACTATATATTGACACACCCAGCAGCTGAACTCTTCAGCAATGGAAAGG 120			
Db	502	ACATGTGACTATATATTGACACACCCAGCAGCTGAACTCTTCAGCAATGGAAAGG 561			
QY	121	GCATGGGCTAAAGTCTCTGGATCACATTATTAGCTAAAGGAGATTAACAA 180			
Db	562	GCATGGGCTAAAGTCTCTGGATCACATTATTAGCTAAAGGAGATTAACAA 621			
QY	181	ATGCGAGATGATCTGGATTCATGATGCTGATGCTGACTTTATT 240			
Db	622	ATGCGAGATGATCTGGATTCATGATGCTGACTTTATT 681			
QY	241	AAACTCTACCTCCACGTTCTCAAGAACATTAACACGCTGATCCATTAA 300			
Db	682	AAACTCTACCTCCACGTTCTCAAGAACATTAACACGCTGATCCATTAA 741			
QY	301	GGTCACCTCGAACACCCAGCAGCTGAACTGAGAGTCACCGATGCAAACACTA 360			
Db	742	GGTCACCTCGAACACCCAGCAGCTGAACTGAGAGTCACCGATGCAAACACTA 801			
QY	361	GAAGATGATCACAGAAATTGAGTCTCGTAAGAACATGATGATGAAATAGAG 420			
Db	802	GAAGATGATCACAGAAATTGAGTCTCGTAAGAACATGATGATGAAATAGAG 861			
QY	421	GTGAAAGTGTATTCAAAATTATACCTTTATGATCTCTGGACTGTGACA 480			
Db	862	GTGAAAGTGTATTCAAAATTATACCTTTATGATCTCTGGACTGTGACA 921			
QY	481	TCTATGGACTCCAGGGTGAAGTCTCTAAAGTACGAGAAATTATCTCAA 540			
Db	922	TCTATGGACTCCAGGGTGAAGTCTCTAAAGTACGAGAAATTATCTCAA 981			
QY	541	ATTAAGACTAGTCTAGTGAGATATTGATGATTAACCTCTGAGCTGATCT 600			
Db	982	ATTAAGACTAGTCTAGTGAGATATTGATGATTAACCTCTGAGCTGATCT 1041			
QY	601	ATGACAGTTGACACAGAACACCCGAAAGTACCTTGAGAGGGT 660			
Db	1042	ATGACAGTTGACACAGAACACCCGAAAGTACCTTGAGAGGGT 1101			
QY	661	GTAACTCTCCACACCTCCAGTGTGAACTACGCTTACGAACTGC 720			
Db	1102	GTAACTCTCCACACCTCCAGTGTGAACTACGCTTACGAACTGC 1161			
QY	721	ATTTAAATTCAGGAAGTGTACACCTCTAGAAATCTGATTCATTAACTGC 780			
Db	1162	ATTTAAATTCAGGAAGTGTACACCTCTAGAAATCTGATTCATTAACTGC 1221			
QY	781	ACATGAACTCAAAAGAAAGTATCTGAAAGAGTATGAGATACCTTAA 840			
Db	1222	ACATGAACTCAAAAGAAAGTATCTGAAAGAGTATGAGATACCTTAA 1281			
QY	841	GAGAAATTGCTAAAGCTGTTGGAAGGGTGTGAAATTGGTCAGCGATCAA 900			
Db	1286	GAGAAATTGCTAAAGCTGTTGGAAGGGTGTGGAAGATTGGTCAGCGATCAA 1341			
QY	901	CTGGAGTCGCTTATACCGGATAATGGACATGCTTAATCAGAGAGACGA 960			
Db	1342	CTGGAGTCGCTTATACCGGATAATGGACATGCTTAATCAGAGAGACGA 1401			
QY	961	TATCCATTCAAAATTGCAACTCTGAACTGACATTTGATGCTTATG 1020			
Db	1402	TATCCATTCAAAATTGCAACTCTGAACTGACATTTGATGCTTATG 1461.			
QY	1021	CGTGCGCTGTGGGTGTAAGGCCCATAGTAGAGAGTACTCTGAACTTGAT 1080			
Db	1462	CGTGCGCTGTGGGTGTAAGGCCCATAGTAGAGAGTACTCTGAACTTGAT 1521			
QY	1081	TCTGACAGATTGTCCTCCATGGATCTGAGTGTGCTTAATTAAAGGCTTGAT 1140			
Db	1522	TCTGACAGATTGTCCTCCATGGATCTGAGTGTGCTTAATTAAAGGCTTGAT 1581			
QY	1141	TTTACAAGTGAAAGTTTATCAAGGAGGAACTGACAGAGAATGATA 1200			
Db	1582	TTTACAAGTGAAAGTTTATCAAGGAGGAACTGACAGAGAATGATA 1641			
QY	1201	AACATTAGACGATGAACTGAACTGATCAGTCAGGATCTGCTGATGATCA 1260			
Db	1642	AACATTAGACGATGAACTGAACTGATCAGTCAGGATCTGCTGATGATCA 1701			
QY	1261	CTTATTGATCAATTACAACTCAAAAGGAGGAGGAACTGATCACCTGAA 1320			
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Db	1822	TCGCTGCTGATCTCCAGATGATCAGTCAGGATCTGCTGATGATCT 1881			
QY	1441	GCAGAGACAGAACCTGAGCCCTCAGGAGGAGGAACTGATCACCTCT 1500			
Db	1882	GCAGAGACAGAACCTGAGCCCTCAGGAGGAGGAACTGATCACCTCT 1821			
QY	1381	TCTCTGTGATGCTCAAGAACAAAGGTTCACTACGCGTGAATTCTGCAA 1440			
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QY	1501	TCTGTGTTAAAGGTTGATGGCTAGCCTATCCGCTTAATACACTTTGTGA 2001			
Db	1882	GCAGAGACAGAACCTGAGCCCTCAGGAGGAGGAACTGATCACCTCT 1941			
QY	1561	CGCTCTGTGATGCTCAAGAACAAAGGTTCACTACGCGTGAATTCTGCAA 1620			
Db	2002	CGCTCTGTGATGCTCAAGAACAAAGGTTCACTACGCGTGAATTCTGCAA 2061			
QY	1621	CTCGAGATGATGCTGACTCATGAGACGAGCCATTCTGACCTTTGACACC 1680			
Db	2062	CTCGAGATGATGCTGACTCATGAGACGAGCCATTCTGACCTTTGACACC 2121			
QY	1681	ATGATGCGATGCTGAGGAAATAGACCTTAAATCAACATCATGTCAGACGA 1740			
Db	2122	ATGATGCGATGCTGAGGAAATAGACCTTAAATCAACATCATGTCAGACGA 2181			
QY	1741	TACGAGATCTCTCATGTCAGGAGATCTGACCTGCTGAGCTGAAAGAG 1800			
Db	2182	TACGAGATCTCTCATGTCAGGAGATCTGACCTGCTGAGCTGAAAGAG 2241			
QY	1801	GATGATGCTGACTCATGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 1860			
Db	2242	GATGATGCTGACTCATGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 2301			
QY	1861	ATTTGAGATGCTGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 1920			
Db	2302	ATTTGAGATGCTGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 2361			
QY	1921	AGCCCTACAGTCTGACTCATGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 1980			
Db	2362	AGCCCTACAGTCTGACTCATGAGGAAATGACCTGCTGAGCTGAAAGACAAAT 2421			
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Qy	2041	AGATCAAGAAGACTCTGATCATATGGGAACTATGGGACTCTGAGAAGTCCAGAA	2100
Db	2482	AGATCAAGAAGCTTGTATCATCTGGTGAATCATGGGACTCTGAGAAGTCCAGAA	2541
Qy	2101	ATTAACAGATGGTGTACACGACGCTGGCTCAAAGAGCTGGAGCTGAGGAGCAC	2160
Db	2542	ATTAACAGATGGTGTACACGACGCTGGCTCAAAGAGCTGGAGCTGAGGAGCAC	2601
Qy	2161	CCTCTAACACACTGAAACATCTACGTTGTTGAGGATGAGTGGAGCTGAGAAGT	2220
Db	2602	CTCTAACACACTGAAACATCTACGTTGTTGAGGATGAGTGGAGCTGAGAAGT	2661
Qy	2201	AGTAAAGATCCTCCAGGAGAGTCGAGAAATTGGCGAGAACTGCGAGAATGACT	2280
Db	2702	AGTAAAGATCCTCCAGGAGAGTCGAGAACTGCGAGAATGACT	2721
Qy	2281	CGACACGAAAGCRAAGGAAATGATGATGATGATGATGATGATGATGATGAG	2340
Db	2722	CGACACGAAAGCRAAGGAAATGATGATGATGATGATGATGATGATGAG	2781
Qy	2341	AAA 2343	
Db	2782	AAA 2784	
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DEFINITION	Sequence 1 from patent US 5496731.	PAT	07-OCT-1996
ACCESSION	118496	118496.1	GI:1598851
VERSION			
KEYWORDS	Unknown.		
SOURCE	Unclassified.		
ORGANISM			
REFERENCE	1 (bases 1 to 3232)		
AUTHORS	Xu, H., Hu, S. and Benedict, W.F.		
TITLE	Broad-spectrum tumor suppressor genes, gene products and methods for tumor suppressor gene therapy		
JOURNAL	Patent: US 5496731-A 1-03-MAR-1996;		
FEATURES	Location,Qualifiers		
BASE COUNT	1086 a 597 c 566 g 983 t		
ORIGIN	/organism="unknown"		
Query Match	100.0% Score 2343; DB 5; Length 3232; Best Local Similarity 100.0%; Pred. No. 0; Matches 2343; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		
Qy	1	ATGTCAGACTGTTGAGAAAGTATGATGTTGACTCTCAGAAATTGAAAGG	60
Db	124	ATGTCAGACTGTTGAGAAAGTATGATGTTGACTCTCAGAAATTGAAAGG	183
Qy	61	ACATGAGACTATATATGACACACCCGCGAGTCGATACTACGAAATTCT	120
Db	184	ACATGAGACTATATATGACACACCCGCGAGTCGATACTACGAAATTCT	243
Qy	121	GCATTCGTTGCAAGTGTCTGATCATTTTGTACAGTAAAGGAGTTACAA	180
Db	244	GCATTCGTTGCAAGTGTCTGATCATTTTGTACAGTAAAGGAGTTACAA	303
Qy	181	ATGGAGATGAGCTGGAGTATGTTGATGTTGATGTTGATGTTGATGTT	240
Db	304	ATGGAGATGAGCTGGAGTATGTTGATGTTGATGTTGATGTTGATGTT	363
Qy	241	AACTCTCACCTCCAGTGTCAAGAACATATAAACAGCTGTTACCCATT	300
Db	364	AACTCTCACCTCCAGTGTCAAGAACATATAAACAGCTGTTACCCATT	423
Qy	301	GGTCACCTGAGACACCCAGGGCTGAGAGCTGGAGCTGAGGATAGCAGAACACTA	360
Db	424	GTTTCACTGAGACACCCAGGGCTGAGAGCTGGAGCTGAGGATAGCAGAACACTA	483
Qy	361	GGAAAGATCAGAAATTTGAGTCTCTGTAAGACAGAATGAGTATAGATG	420
Db	484	GGAAAGATCAGAAATTTGAGTCTCTGTAAGACAGAATGAGTATAGATG	543
Qy	421	GGAAAGATGTTTATTCTAAATTACTTATGATTCCTGACTGTTACA	480
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Qy	721	ATTTAAATTCAGACAGTACCTGAGTTCAGTAACTCTGAGGCTGAT	660
Db	844	ATTTAAATTCAGACAGTACCTGAGTTCAGTAACTCTGAGGCTGAT	783
Qy	781	ACAGTGATCCACACTCAGCTAGCTAGCTAGCTAGCTAGCTAGCT	720
Db	904	ACAGTGATCCACACTCAGCTAGCTAGCTAGCTAGCTAGCTAGCT	903
Qy	841	GGAAATTGTTGATGCTGGAGGAGTGGAGGATGAGCTACATCCACAA	
Db	964	GGAAATTGTTGATGCTGGAGGAGTGGAGGATGAGCTACATCCACAA	
Qy	901	CTGGGATTCCTGTTACCGGATGAACTCTGAAATTGGATCACCGTACAA	960
Db	1024	CTGGGATTCCTGTTACCGGATGAACTCTGAAATTGGATCACCGTACAA	1083
Qy	961	TTTCAATTCAAAATTGACACTCTGATGACACATTTCATGCTTATG	1020
Db	1084	TTTCAATTCAAAATTGACACTCTGATGACACATTTCATGCTTATG	1143
Qy	1021	GGTGCGCTCTGGTTGCTGGCCACATATGAGCTGAGTACCTGAGAATCTGAT	1080
Db	1144	GGTGCGCTCTGGTTGCTGGCCACATATGAGCTGAGTACCTGAGAATCTGAT	1203
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Qy	1201	ATACATTAGAGCTGAGTACCTGATGTTGAGCTGAGTACCTGATGTTG	1260
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Qy	1261	CTTTATTGATCTTAAACATCAAGGACCGAGGAGGACACTGATCACCTGAA	1320
Db	1384	CTTTATTGATCTTAAACATCAAGGACCGAGGAGGACACTGATCACCTGAA	1443
Qy	1321	TCTGCTGTCCTTAACCTCCCTCAGATACACTCCAGATGTTGATGTT	1380
Db	1444	TCTGCTGTCCTTAACCTCCCTCAGATACACTCCAGATGTTGATGTT	1503

QY	1381 TCTCCCTGTAAGATCCTCAAAGAAAAGGTTCAACTACCGGTGTAATTCTACTGCATT 1440	ACCESSION	118497	VERSION	118497_1	GI:	1598852
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QY	1441 GCAGAGACACAGAACGACCTTCAGCCCTTCAGACCGAGCAGCATGAAATCTACCCCT 1500	REFERENCE	1 (bases 1 to 3232)	AUTHORS	Xu, H., Hui, S. and Benedict, W.F.	TITLE	Broad spectrum tumor suppressor genes, gene products and methods for tumor suppressor gene therapy
Db	1564 GCAGAGACACAGAACGACCTTCAGCCCTTCAGACCGAGCAGCATGAAATCTACCCCT 1623	JOURNAL	US 546731-A 2 05-MAR-1996,	PATENT	US 546731-A 2 05-MAR-1996,	FEATURES	Location/Qualifiers
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QY	1684 CGCTCTGCTGAGCAGCACCATGAAATGACATCAGCTGGAC 1743						
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Db	1744 CTGAGAGATGAGTGAAGTCACTGAGAGCAGATTGGACAAATTGATGTGTC 1803	Query Match	100.0%	Score	2343	DB	5
QY	1 ATGATGGCTATGAGTCAAGTCAACTGAGAATATGACCTTAATTCAAAATCATGTGACCA 1740	Best Local Similarity	100.0%	Score	2343	Length	3232;
Db	1804 ATGATGGCTATGAGTCAAGTCAACTGAGAATATGACCTTAATTCAAAATCATGTGACCA 1863	Matches	2343;	Conservative	0;	Mismatches	0;
QY	1741 TACAGAGATCTTCATCAGTGTCTAGGAGATATGACCTTAATTCAAAATCATGTGACCA 1800	Indels	0;	Gaps	0;		
Db	1864 TACAGAGATCTTCATCAGTGTCTAGGAGATATGACCTTAATTCAAAATCATGTGACCA 1923						
QY	1801 GAGTAGATGCTATAGTATAGTACTGCTTAACTGCTTACAGGACATGAGCAG 1860						
Db	1924 GAGTAGATGCTATAGTATAGTACTGCTTACAGGACATGAGCAG 1983						
QY	1861 ATTTGAGTGTGTCACCGAGCCCTACCTTGTCACCAATACCTACATCCTACATCCTAC 1920						
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QY	1921 AGCCCTTACAGTGTCTAGTCACCTTAGGATCTCTGGAGGAGCATCTATTTCA 1980						
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QY	1881 CCCCTGAGAGTCATAAAATTCAAGGGTGTGCCACACACACAAAGTC 2040						
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QY	21 1 ATTAATCAGATGAGTGAACGCCGGTGTCAAAAGAGTGCTGAGGGAGCAC 2160						
Db	2224 ATTAATCAGATGAGTGAACGCCGGTGTCAAAAGAGTGCTGAGGGAGCAC 2283						
QY	2161 CCTCTTAAACCACTGAGAAACTCTCTTGTAGGATCAATGAGCTGAGCTGAG 2220						
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DEFINITION	Sequence 2 from patent US 5496731.						

Date: Feb 13, 2000 8:12 PM  
 About: Results were produced by the GenCore software, version 1.993-1998 Copyright (c) Compugen Ltd.  
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		SOURCE							141906
		ORGANISM	Unknown.						
			Unclassified.						
REFERENCE	1 (bases 1 to 4597)	REFERENCE	1						
AUTHORS	Dryja, T.P. and Friend, S.	AUTHORS							
TITLE	Human DNA in the diagnosis of retinoblastoma	TITLE							
JOURNAL	Patent: EP 0259031-A2 1.09-MAR-1988;	JOURNAL							
FEATURES		FEATURES							
source	1..4597 /organism="unknown"	source							
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442	442	442	491						
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492 ATTTGAAAGAGCAGTGAAGTATATATTGACACAAACCAGCAGTCGA	ATTTGAAAGAGCAGTGAAGTATATATTGACACAAACCAGCAGTCGA	ATTTGAAAGAGCAGTGAAGTATATATTGACACAAACCAGCAGTCGA	541						
34 leSerThrGluLeuAsnSerAlaLeuValLeuLysValSerTrpIleThr	34 leSerThrGluLeuAsnSerAlaLeuValLeuLysValSerTrpIleThr	34 leSerThrGluLeuAsnSerAlaLeuValLeuLysValSerTrpIleThr	50						
542 TAATCTGCAAGAAATTCGATGCTGCTGCTAAAGTCTCTGATCACA	TAATCTGCAAGAAATTCGATGCTGCTGCTAAAGTCTCTGATCACA	TAATCTGCAAGAAATTCGATGCTGCTGCTAAAGTCTCTGATCACA	591						
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LOCUS 118496 3232 bp DNA PAT . 07-OCT-1996

DEFINITION Sequence 1 from patent US 5496731.

ACCESSION 118496

VERSION 118496.1 GI:1598851

KEYWORDS

SOURCE unknown.

ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 3232)  
 Xu, H., Hu, S. and Benedict, W. F.  
 Brood-spectrum tumor suppressor genes, gene products and methods  
 for tumor suppressor gene therapy  
 Patent: US 5496731-A 1 05-MAR-1996;  
 Journal: Lacten/Qualifiers 1. . 3232

FEATURES Source /organism="unknown"

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Db	1485	AATGGCCACATATGGCAGAACTCATCAGAATCTGATGTTGGACACATTGTCTT	1544
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Qy	2163	ATCTTAACTCGCTTCATGAGATGAAACAAATTTGGAGTGTCTCCAC	2222
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 Version M33647.1 GI:190945  
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 Organism Homo sapiens  
 Reference Friend, S.H., Horowitz, J.M., Gerber, M.R., Wang, X.F., Bogemann, E., Li, F.P. and Weinberg, R.A.  
 Title Deletions of a DNA sequence in retinoblastomas and mesenchymal tumors: organization of the sequence and its encoded protein [published erratum appears in Proc Natl Acad Sci U S A 1988 Apr;85(7):2244]  
 Journal Proc. Natl. Acad. Sci. U.S.A. 84 (24), 9059-9063 (1987)  
 MEDLINE 88097427  
 Comment draft entry and computer-readable copy of sequence for [1] kindly provided by S.H.Friend, 10-FEB-1988.  
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BASE COUNT 1489 a 842 c 815 g 1454 t  
 ORIGIN 842 c 815 g 1454 t

alignment\_scores:  
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 Quality: 894.00 Length: 894  
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alignment\_block: OS-09-026-459a-29 x HUMBALRA ..

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 52 AspGlyIvaLeuGlyGlyIvaLeuGlyIleGlyIysIlePro 68  
 256 GATGGAGATAGGGAGGTTATATCAAAAGAAAGAGACGCTGGGGAA 305  
 68 ecysIlePheLeIaAlaValAspIleAspGluMetSerPheIlePhe 85  
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 85 hrgIleuGlyIysAsnIleGluIleSerValHisIysPheAsnIeu 101  
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 406 CTAAAGAAATGTACCGAGCAAGTGTATAATGCTATGTCAGACT 455  
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 135 hrcysIleIleIleIleIleIleIleIleIleIleIleIleIleIleI 151  
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